Amendments to the Specification:

Please replace the Title with the following amended Title:

POINTING DEVICE WITH ~~FORCE-~~ PRESSURE SENSITIVE RESISTOR

Please replace paragraph **[06]** with the following amended paragraph:

[06] In addition to scrolling wheels, some mice and other input devices also include force-sensitive inputs. Interlink U.S. Patent No. 5,659,334 shows a microstick mounted on a ~~force-sensing resistor~~ Force Sensing Resistor® (a registered trademark of Interlink Electronics). One of the uses of the microstick would be for scrolling.

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Please replace paragraph **[09]** with the following amended paragraph:

[09] One type of pressure-sensitive input element is a resistor which senses force, such as the Force Sensing Resistor® ~~force-sensitive resistor~~ (FSR®) available from Interlink Electronics. Such a ~~force-sensitive~~ resistor typically includes two conductors mounted on spaced apart substrates, with the substrates being compressed to close the gap and provide contact between the conductors. The signal output varies in accordance with the area of contact. An example is set forth in Interlink U.S. Patent No. 5,302,936.

A2

Please replace paragraph **[11]** with the following amended paragraph:

[11] The present invention provides an input device with a pressure-sensitive element using a ~~force-~~ pressure sensing resistor. A solid elastomeric material is mounted over the ~~force-~~ pressure sensing resistor to transfer a force from the user's finger to the ~~force-~~ pressure sensitive resistor without visible deformation of the elastomeric material. This provides a comfortable button for a user which does not require the compression of a domed cap to provide a pressure-sensitive input.

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Please replace paragraph **[12]** with the following amended paragraph:

[12] In one embodiment, the ~~force-~~ pressure sensing resistor includes two spaced apart contacts, with the gap being closed by the application of pressure by the user, and

A3

the signal output varying with the area of contact. The ~~force~~ pressure sensing resistor is used to provide a scrolling input to an electronic system, such as a computer. The speed of the scrolling can be controlled by the amount of force applied.

Please replace paragraph **[15]** with the following amended paragraph:

[15] In one embodiment of the invention, the ~~force~~ pressure sensing resistor used is a folded-over metal-coated polyester film (alternately, any plastic or thermoplastic film could be used). The spacing between the two folded plys of the film is provided by the spring force at the fold, rather than the use of spacers as in the prior art. This provides a ~~force~~ pressure sensitive resistor which is responsive to very low activation forces, such as forces less than 50 grams. This provides for comfortable user input which does not require excessive force to be applied by the user's finger.

A4

Please replace paragraph **[19]** with the following amended paragraph:

[19] Fig. 3 is a cross-sectional diagram of an embodiment of a ~~force~~ pressure sensing resistor used in the present invention.

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Please add the following new paragraphs after paragraph **[20]**:

[21] Fig. 5 is a diagram of an embodiment of a mouse with an elongated scrolling strip.

A6

[22] Fig. 6 is a diagram of the electronics of one embodiment of the invention.

Please replace former paragraph **[22]** with the following amended paragraph:

~~[22]~~ **[23]** When a user rotates wheel 12, at the end of the rotation forward, the user can easily contact button 14. At the end of a rotation backward, the user can easily contact button 16. Buttons 14, 16 provide an auto-repeat, or continuous scrolling function. These buttons cause scrolling to continue in the direction of the movement of the wheel, without requiring the user to continuously turn the wheel. Alternately, instead of a wheel, a solid state roller or touchpad (such as the elongate strip 60 shown in Fig. 5) could be used for the scrolling

A1

function. The continuous scrolling function could be implemented by a region at the end of the solid state roller or touchpad. An example of a solid state roller is set forth in copending application "Pointing Device with Solid State Roller," filed Dec. 22, 2000, serial number 60/258133, the disclosure of which is incorporated herein by reference.

A1 CONT.

Please replace paragraph **[30]** with the following amended paragraph:

[30] Fig. 3 illustrates an embodiment of a ~~force~~ pressure sensing resistor used for the buttons 14, 16, 28, 30 of Figs. 1 and 2 in one embodiment. Fig. 3 shows a plastic or thermoplastic film 36 coated with metal to form contacts 38, 40. A small space between the metal contacts on the folded-over film 36 is maintained by the spring force of the bent portion 42 of film 36. By using simply the bent portion of the film, rather than spacers, a small gap and a more sensitive ~~force~~ pressure sensing resistor ~~(FSR)~~ can be provided, which provides for activation at forces less than 50 grams of pressure. Such ~~as~~ a low pressure allows less pressure from the user, making the button easier and more comfortable to use, with less strain on the finger to provide the variance in pressure needed. In one embodiment, 36 is formed of a polyester, such as PET (polyethylene terephtalate).

A8

Please replace paragraph **[31]** with the following amended paragraph:

[31] A solid elastomeric dome 44 is placed over the ~~FSR~~ pressure sensing resistor. Dome 44 is rigid and does not visibly compress. It allows for the transfer of force from the finger to the ~~FSR~~ pressure sensing resistor. Thus, not only is less force required from the user's finger, less movement of the user's finger is required to generate that force and activate the button. By having a raised, slightly domed shape, dome 44 allows tactile location of the button by the user's finger. The user can simply move the user's finger across the housing until contacting the raised dome to determine the location of the button.

Please replace paragraph **[34]** with the following amended paragraph:

[34] Although a particular ~~FSR~~ pressure sensing resistor has been illustrated in Fig. 3, other pressure-sensitive switches could be used to implement the embodiments shown in Figs. 1, 2 and 4.

Please add the following new paragraph after paragraph **[34]**:

[35] Fig. 6 illustrates scrolling wheel 12 with sensors 62, 64 for detecting its rotation, connected to hardware electronic circuitry 66 for detecting movement of the wheel due to user action, and transmitting signals corresponding to the wheel movement to an electronic system, such as computer 68. Circuitry 66 also detects the depression of wheel 12 to activate a switch button 70 mounted below the wheel. Computer 68 is shown as having a software driver 72 for interpreting signals from circuitry 66. When the wheel 12 is replaced by a pressure sensitive element, such as strip 60 of Fig. 5, the software driver provides a single movement on a display of a predetermined amount in response to activation of the strip for less than a predetermined amount of time, and a continuous movement at a speed corresponding to an amount of detected pressure for an activation of said strip for more than the predetermined amount of time. Also shown in Fig. 6 is a module 74 for generating an audible ratchet sound for each predetermined amount of scrolling.

A9

Please replace former paragraph **[35]** with the following amended paragraph:

~~[35]~~ **[36]** As will be understood by those of skill in the art, the present invention may be embodied in other specific forms without departing from central characteristics thereof. For example, a scrolling wheel or scrolling buttons could be implemented in a mouse, a trackball, a remote control device, a game pad, a joystick, a keyboard, or any other input device. Additionally, in addition to discrete buttons, the ~~force~~ pressure sensing resistor could be implemented in an elongated input pad, with one portion of the pad providing up scrolling and the other portion providing down scrolling, or other movement features. Accordingly, the foregoing description is intended to be illustrative, but not limiting, of the scope of the invention which is set forth in the following claims.